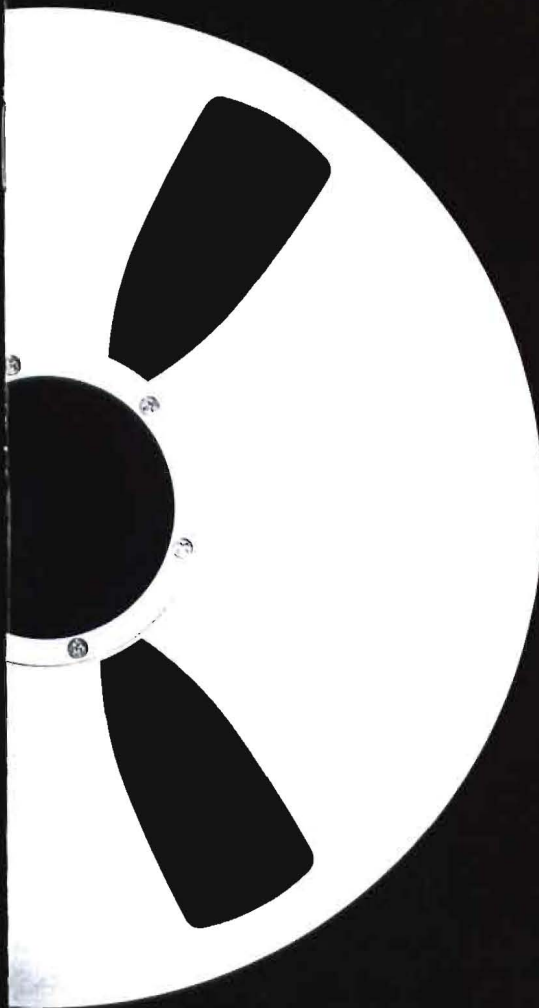




**Functionally-illuminated controls**



**14" reel  
capacity**



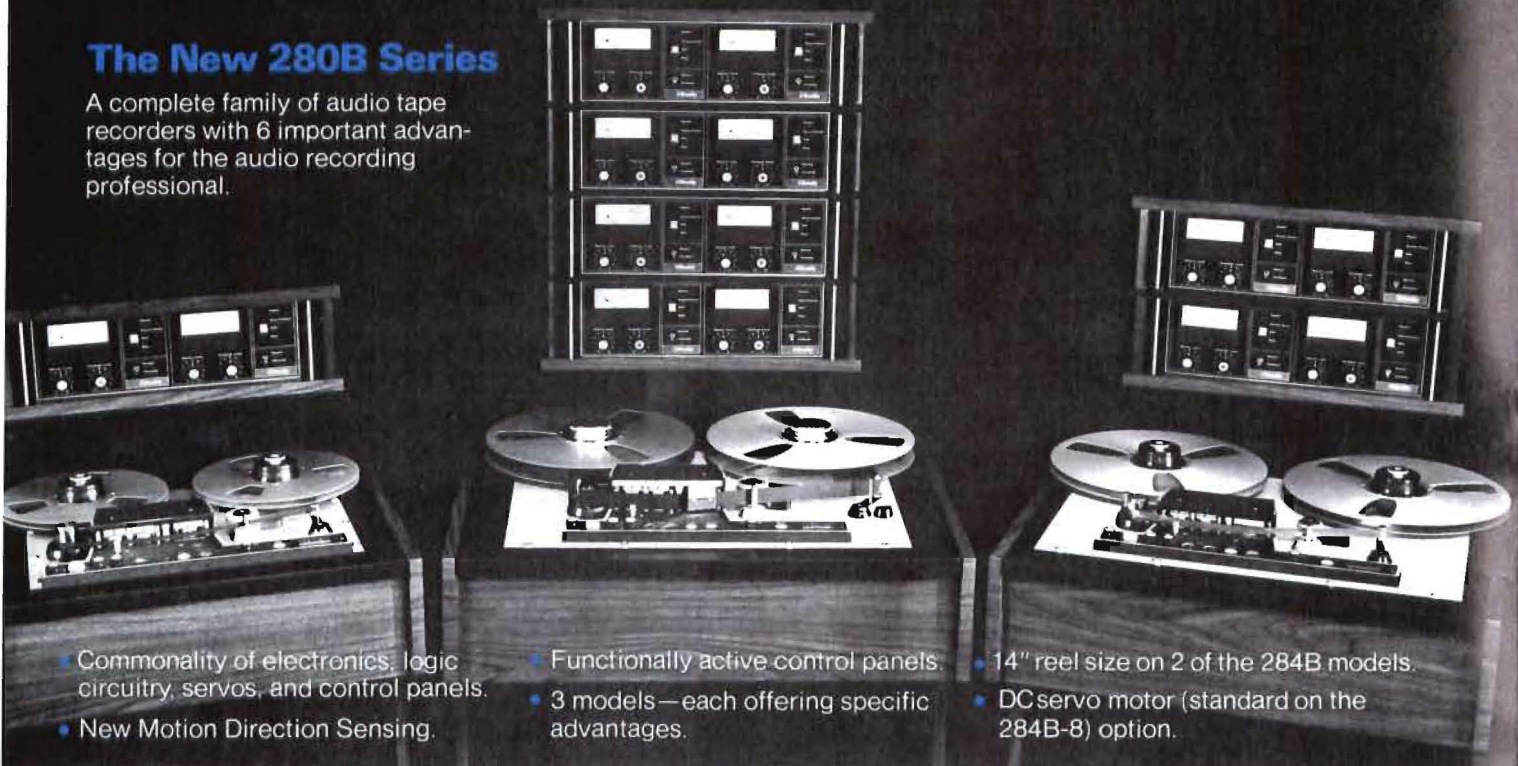
**Printed DC  
capstan servo**

**It's All In The New 280-B Family**

**▶ Scully | Metrotech**  
Division of Dictaphone

## The New 280B Series

A complete family of audio tape recorders with 6 important advantages for the audio recording professional.



- Commonality of electronics; logic circuitry, servos, and control panels.
- New Motion Direction Sensing.

- Functionally active control panels.
- 3 models—each offering specific advantages.

- 14" reel size on 2 of the 284B models.
- DC servo motor (standard on the 284B-8) option.

### 280B

For general purpose, up to 11.5" reels.

### 284B-8

The new 1-inch master recorder, with up to 14" reels.

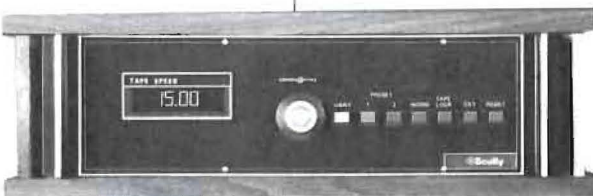
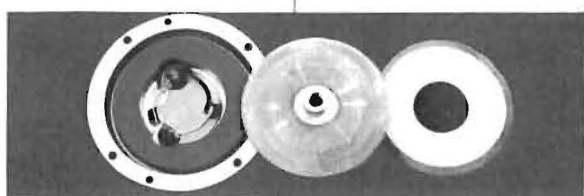
### 284B

The flexible new .25" and .50" recorder with up to 14" reels.

**Electronics.** Innovative low-noise electronics feature the mother-daughter board architecture that set new serviceability standards.

**New Logic Circuits.** Used in all current models, the new Scully logic provides for motion direction sensing, dynamic braking and functional control panel illumination. It is available in kit form for existing 280B models.

**Printed Circuit DC Servo.** Servo is optional on two models... standard on the 284B-8. These systems utilize a crystal oscillator and precision optical tachometer for smooth, fast response and precise tape speed control.



#### Variable Speed Accessory.

New from Scully... and unique. Variable speed provides discrete frequency shifts or... plus 50% to minus 25% continuously variable speed range. Available for all servo-equipped models.

You can start with a new 280B... add the options later. You can even add the new features to your existing 280B. Add the new logic... the new servo... and your own 280B is ready for the most sophisticated automation and production jobs—including Scully's new Variable Speed Accessory.

Welcome to the family!



## Recording Economics — What Scully Features Mean to You.

All of the features in the world can't justify a top-of-the-line reputation unless those features contribute to cost effectiveness in terms of your investment, as well as overall performance superiority.

That's where Scully comes in.

**Commonality of components** is an example. In the 280B, 284B, and 284B-8, Scully offers 3 distinct recorder models each offering specific application advantages. At the same time, the common components used in all 3 back our claim for interchangeability. Years of planning have gone into this new family of recorders. Successful components were retained in each model yet provisions for improvement existed. What Scully offers today is the result of logical development. We feel that it costs less, in the long run, to own different

Scully 280B models using the specific model you need, drawing on common components concept to support your long term investment.

**Extended Long Play Capabilities.** For long play applications, the 284B series has been expanded to handle .25" or .50" reels to 14". Now the 284B-8 Track model can also use the 14" reel in 1.00 inch tape width. Why 14" reels on a mastering recorder? A trend to 30 in/s speed for mastering on 1.5 mil tape uncovers the weakness of the 10½" reel of tape—only 16 minutes of total program time. The new 14" reel doubles this—to 32 minutes.

Another trend—using 30 in/s for mixing down—made it essential that the 284B be equipped to operate at the higher speed to take full advantage of its .25" and .50" 14" reels. We did it. Now you can mix-down to .25" or .50" tape an entire 30 minute program.

Long a pioneer in motion sensing systems, Scully now adds direction sensing to gain this important advantage: Improved tape handling motion direction sensing provides a signal for the logic to apply dynamic braking. Such braking provides smooth positive direction changes and good tape packing. In tests, Scully 284B-8 transports using a full 14" reel of tape and a 10-1/2" take up reel can shuttle tape, changing directions in fast wind modes, and still wind tape in a near perfect pack.

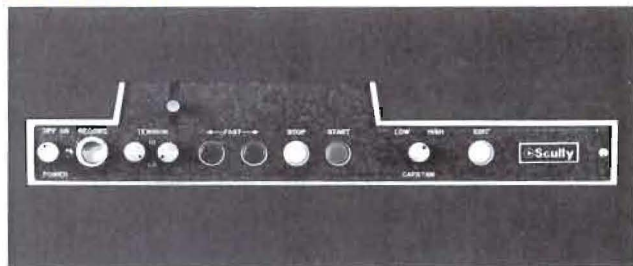
Sounds complicated yet it is simple in concept. New improved logic provides for lighting the push buttons to visually indicate actual transport mode. If the PLAY button is pressed, with the transport in FAST FORWARD, the rewind button lights to indicate the reverse torque of the dynamic braking action. The transport then momentarily stops; then automatically enters PLAY and the PLAY button lights. What you see is what you get... even on the optional remote control.

**DC Servo:** Standard on the 284B-8, Scully's new capstan servo system is available as an option for all machines in the family and as a kit for existing 280B models. The servo is designed around a reliable printed circuit motor and offers outstanding high torque characteristics. A crystal oscillator provides the basic tape speed reference frequency with an optical tachometer serving as the functional reference. The capstan itself is of larger diameter affording more contact with the tape, hence a more positive tape drive, especially at lower speeds.

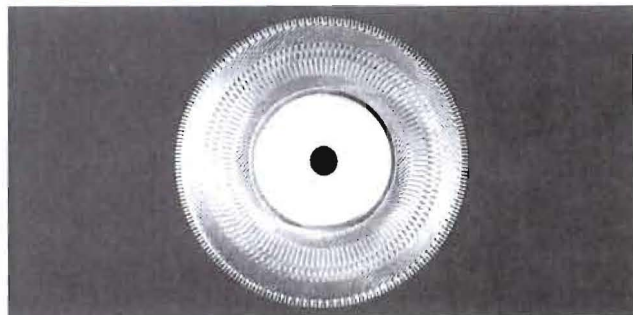
## Motion Direction Sensing — The Professional Touch.



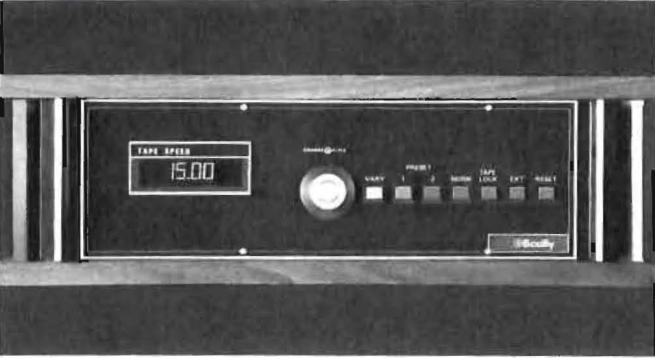
## Functionally Illuminated Controls.



## DC Servo Printed Circuit

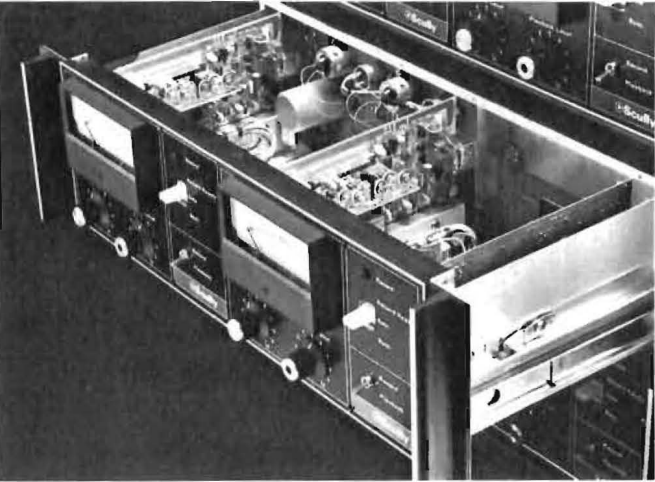


Variable Speed Accessory:



Here is the valuable new production accessory for all servo-equipped models of the 280B family. Two pre-set buttons are provided on the front panel which are adjustable internally to any desired combination over the range of +50% to -25% of tape speed. A continuously variable speed knob is also available over the same speed range. A 4-digit L.E.D. display indicates actual tape speed in inches per second. A lighted word also tells you read-out is "referenced" to crystal or a "control track" if present. This control track feature is standard. Thus you can record a control track on one machine, then play back on a second machine to duplicate conditions under which the original recording was made.

Electronics.



Scully field-proven 280B electronics have been one of the most popular Scully innovations. With exceptional low-noise and extended dynamic range characteristics, you not only enjoy great performance, but easily maintained and serviced units, thanks to the contemporary mother-daughter board architecture. All set-up and adjustment controls are accessible without use of extender boards, and everything is accessible from the front. Front panels are simple and clean. All legends are easy to read. The large VU meter can be read from some distance. Single, back-lighted 3-position selector switch controls RECORD READY, SAFE or SYNC (Selective Synchronization). An operator can "punch in" or "punch out" of RECORD on a given channel with tape moving. A plus for making edit inserts.

Electronics Specifications

Frequency Response	(3M 206 or equivalent tape used as reference.)				Distortion	3rd harmonic distortion of 500 Hz signal; at peak record level (500 nWb/m) Less than 3%; at standard operating level (250 nWb/m) Less than 0.6%.
	30 in/s (762 mm/s) ± 2 db 50 Hz to 20 kHz.					
	15 in/s (381 mm/s) ± 2 db 30 Hz to 18 kHz.					
	7.5 in/s (190.5 mm/s) ± 2 db 30 Hz to 15 kHz.					
	3.75 in/s (95.2 mm/s) ± 2 db 30 Hz to 10 kHz.					
Signal-to-Noise Ratio	(Using 3M 206 tape or equivalent.) Peak record level (500 nWb/m) to NAB weighted noise. (NAB Equalization, AES at 30 in/s.)				Inputs	Floating bridging 10 kilohms minimum level 200 mV.
		Full track 0.25 in.	Half track 0.25 in.	Two track 0.25 in.		
	30 in/s	72 db	68 db	68 db		
	15 in/s	72 db	68 db	68 db		
	7.5 in/s	72 db	68 db	68 db		
	3.75 in/s	68 db	64 db	64 db		
		Four track 0.25 in.	Four track 0.50 in.	Eight track 1.00 in.	Output	+ 24 dbm into 600 ohm load. (Output impedance 60 ohms).
	30 in/s	65 db	68 db	68 db		
	15 in/s	65 db	68 db	68 db		
	7.5 in/s	65 db	68 db	68 db		
	3.75 in/s	61 db	64 db	64 db		
					Alignment Controls	Equalization Controls: 2 Record, 4 Play; Bias Adjust, Record Cal., Sync Cal., Play Cal. Bias Level Set (Regulator, Bias Osc and Ampl PCB).
					Bias and Erase Frequency	160 kHz.
					Erase Efficiency	Greater than 75 db at 1 kHz.
					Equalization	Plug-in boards provided to match adjacent speed pairs. Switching is automatic. Available NAB, AES, or IEC (CCIR), as applicable.



**Scully/280B**  
 1/4" or 1/2" tape, up to 11.5" reels.

All the important features...functionally illuminated transport controls, new motion direction sensing logic and dynamic braking for improved tape handling, plus printed circuit DC servo drive option, are incorporated in the new 280B series recorder/reproducer which handle .25" or .50" tape on reels up to 11.5" (CCIR).

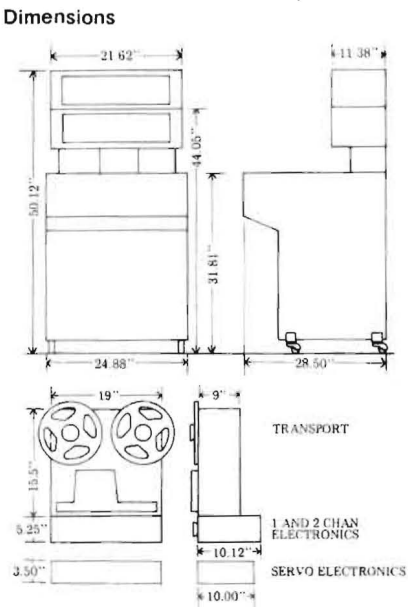
With servo drive option, Scully's 280B has a larger capstan and pinch roller diameter for more positive tape drive at all speeds. This is especially important to broadcasters who use 3.75 in/sec speed. The easy-to-align-and-maintain electronics are mounted in a convenient pull-out drawer to minimize down-time. All this adds up to a standard in broadcast and studio recording where smooth, positive tape handling, coupled with low noise electronics and easy controls provide truly professional results.

The 280B is available in full or half track mono; 2 or qtr. track stereo .25" tape plus 4-track (quad stereo) .25" or .50" tape widths.



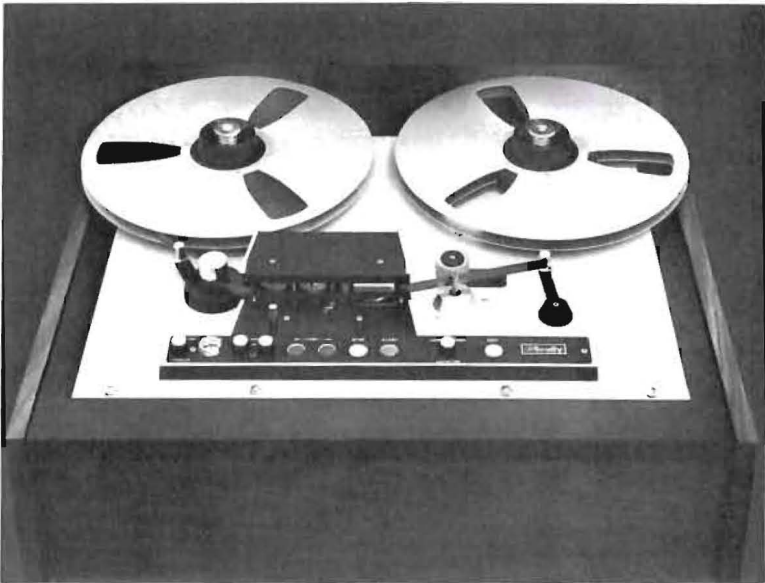
**Transport Specifications — 280B**

<b>Flutter and Wow</b>	Weighted peak flutter (ANSI S 4. 3-1972; I.E.C. 386-1972) using a prerecorded flutter tape.		<b>Remote Control</b>	Fast (FWD-RWD); Start/ Stop; Record, and ATL Defeat (Fast FWD or RWD Button).	
	<b>Speed</b>	<b>DC Servo</b>	<b>AC Motor</b>	<b>Transport Motion Controls</b>	Fast (FWD-RWD); Start, Stop; Record; Edit
	30 in/s	.04%	—		
	15 in/s	.04%	.08%		
	7.5 in/s	.06%	.1%		
	3.75 in/s	.1%	.2%	<b>Power Requirements</b>	105-125V 60 Hz (50 Hz and or 220-240V optional extra); Power consumption at 117V AC-60 Hz: 1 & 2 channel = 223 VA; 4 channel = 328 VA.
<b>Speed Accuracy</b>	±0.1% with DC Servo; ±0.2% with AC motor throughout reel at all speeds using 1.5 mil tape.				
<b>Wind Time</b>	Less than 60 seconds for 2400 foot NAB reel, 0.25-inch tape.		<b>Head and Track Configuration</b>	Full track mono (.25") Half track mono (.25") Two-track stereo (.25") Quarter-track stereo (.25") Four-track (.25") Four-track (.50")	
<b>Reel Sizes</b>	To 11.5-in (CCIR)				
<b>Tape Speed</b>	Equalization switches automatically with speed. 3.75 in/s and 7.5 in/s or 7.5 in/s and 15 in/s or with DC Servo option, 15 in/s and 30 in/s.		<b>Weights (approx.)</b>	Shipping weights, standard carton. Unmounted Recorders: Mono-106 pounds; 2 channel-106 pounds; 4 channel-127 pounds. Empty consoles: 1 and 2 channel-103 pounds; 4 channel-120 pounds.	
<b>Motors</b>	Capstan: Direct Drive Hysteresis Synchronous or optional DC Servo. Reel: Induction Torque Motor (2).				
<b>Brakes</b>	Dynamic plus disc.			(For electronic speed features, see Page 4.)	



(For electronic specifications, see Page 4 )

**Scully/284B Series**  
1/4" or 1/2" tape, up to 14" reels.



This more specialized version of 280B uses .25" or .50" reels to 14" for long play or record applications. All models are operable up to 30 ips with servo option. Using 30 ips for mix-downs, the 14" reel capacity is more practical in terms of tape length and time. All models are available with any two adjacent speeds 3.75, 7.5, 15 and 30 ips including automatic equalization switching of the same speed pair. Configurations: .25" full track or half track; .25" two track or quarter track stereo; .25" or .50" four track. Options include DC capstan servo and Variable Speed accessory.

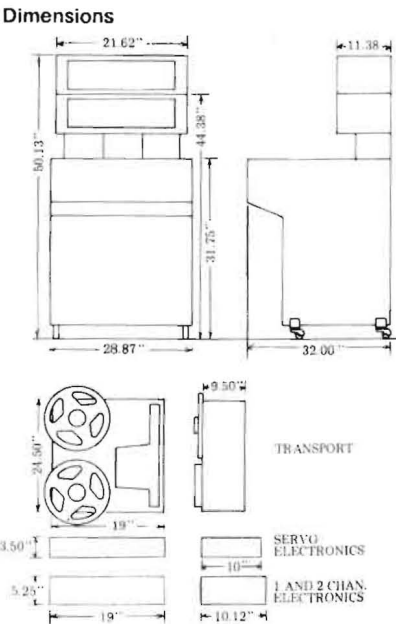
**Transport Specifications – 284B**

Flutter and Wow	Weighted peak flutter (ANSI S 4.3-1972; I E.C. 386-1972) using a prerecorded flutter tape.	Brakes	Dynamic plus disc.															
		Remote Control	Fast (FWD-RWD); Start/ Stop; Record, and ATL Defeat (Fast FWD or RWD Button).															
Speed Accuracy	<table><tr><th>Speed</th><th>DC Servo</th><th>AC Motor</th></tr><tr><td>30 in/s</td><td>.04%</td><td>—</td></tr><tr><td>15 in/s</td><td>.04%</td><td>.08%</td></tr><tr><td>7.5 in/s</td><td>.06%</td><td>.1%</td></tr><tr><td>3.75 in/s</td><td>.1%</td><td>.2%</td></tr></table>	Speed	DC Servo	AC Motor	30 in/s	.04%	—	15 in/s	.04%	.08%	7.5 in/s	.06%	.1%	3.75 in/s	.1%	.2%	Transport Motion Controls	Fast (FWD-RWD); Start; Stop; Record; Edit.
	Speed	DC Servo	AC Motor															
30 in/s	.04%	—																
15 in/s	.04%	.08%																
7.5 in/s	.06%	.1%																
3.75 in/s	.1%	.2%																
	±0.1% with DC Servo; ±0.2% with AC motor throughout reel at all speeds using 1.5 mil tape.	Power Requirements	105-125V 60 Hz (50 Hz and or 220-240V optional extra); Power consumption at 117V AC-60 Hz: 1 & 2 channel = 223 VA; 4 channel = 328 VA.															
		Head and Track Configuration	Full track mono (.25") Half track mono (.25") Two-track stereo (.25") Quarter-track stereo (.25") Four-track (.25") Four-track (.50")															
Wind Time	Less than 60 seconds for 2400 foot NAB reel, 0.25-inch tape.	Weights approx }	Shipping weights, standard carton. Unmounted Recorders: Mono-128 pounds; 2 channel-128 pounds. 4 channel-154 pounds. Empty consoles: 1 and 2 channel-160 pounds; 4 channel-175 pounds.															
Reel Sizes	To 14-inch.																	
Tape Speed	Equalization switches automatically with speed. 3.75 in/s and 7.5 in/s or 7.5 in/s and 15 in/s or with servo option, 15 in/s and 30 in/s.																	
Motors	Capstan: Direct Drive Hysteresis Synchronous or optional DC Servo. Reel: Induction Type Torque Motor (2).																	

6

(For electronic specifications, see Page 4.)

(For electronic specifications, see Page 4 )



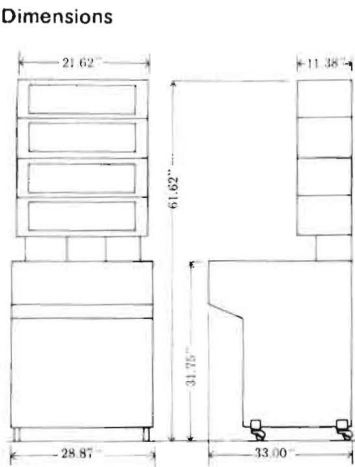
**Scully/284B-8**  
 1-inch tape, up to 14" reels.

Scully's new Master Recorder/Reproducer is available in an eight channel version using high performance 280B electronics. Standard capability is handling 1" tape on reels up to 14" in diameter. Automatic equalization switching is provided on any two adjacent speed pairs 3.75, 7.5, 15 or 30 ips. New logic, motion direction sensing, dynamic braking, and the Scully DC capstan servo are standard on this model. These features make the 284B-8 the most versatile 8 track system in its price range. Options: Variable speed accessory, remote transport control.



**Transport Specifications — 284B-8**

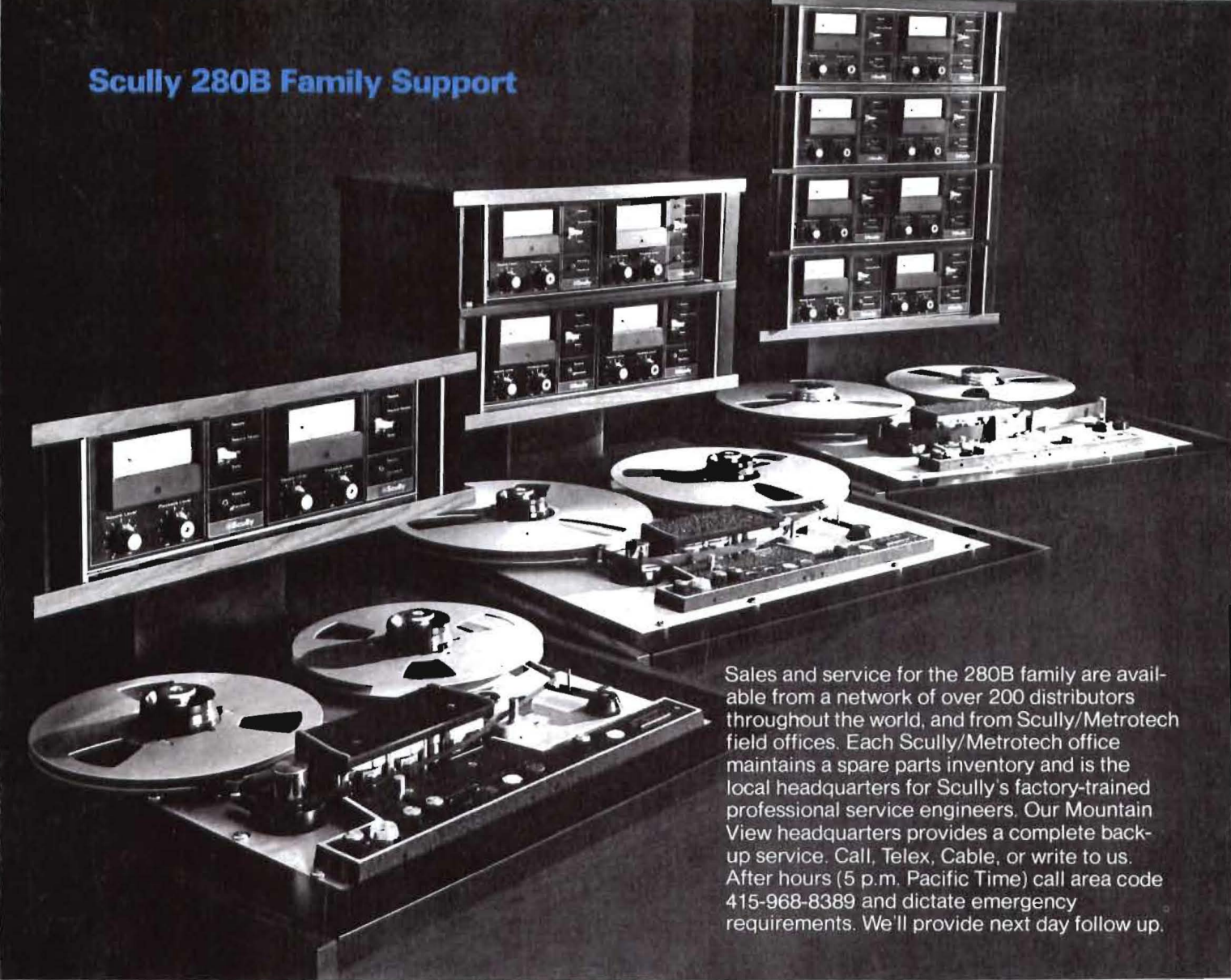
<b>Flutter and Wow</b>	Weighted peak flutter (ANSI S 4 3-1972; I.E.C. 386-1972) using a prerecorded flutter tape.	<b>Brakes</b>	Dynamic plus disc.										
	<table><tr><th>Speed</th><th>DC Servo</th></tr><tr><td>30 in/s</td><td>.04%</td></tr><tr><td>15 in/s</td><td>.04%</td></tr><tr><td>7.5 in/s</td><td>.05%</td></tr><tr><td>3.75 in/s</td><td>.1%</td></tr></table>	Speed	DC Servo	30 in/s	.04%	15 in/s	.04%	7.5 in/s	.05%	3.75 in/s	.1%	<b>Remote Control</b>	Fast (FWD-RWD); Start/Stop, Record, and ATL Defeat (Fast FWD or RWD Button).
Speed	DC Servo												
30 in/s	.04%												
15 in/s	.04%												
7.5 in/s	.05%												
3.75 in/s	.1%												
		<b>Transport Motion Controls</b>	Fast (FWD-RWD); Start, Stop, Record, Edit										
<b>Speed Accuracy</b>	±0.1% throughout reel at all speeds using 1.5 mil tape.	<b>Power Requirements</b>	105-125V 50 or 60 Hz (220/240V optional extra) 400 VA.										
<b>Reel Sizes</b>	To 14 inches.	<b>Head and Track Configuration</b>	8-track (1.00").										
<b>Tape Speed</b>	Equalization switches automatically with speed. 3.75 in/s and 7.5 in/s or 7.5 in/s and 15 in/s or 15 in/s and 30 in/s.	<b>Weights (approx.)</b>	Shipping weight, standard carton. With console: Total-391 pounds.										
<b>Motors</b>	Capstan: DC Servo. Reel: Induction Torque Motor (2).												



(For electronic specifications, see Page 4 )



## Scully 280B Family Support



Sales and service for the 280B family are available from a network of over 200 distributors throughout the world, and from Scully/Metrotech field offices. Each Scully/Metrotech office maintains a spare parts inventory and is the local headquarters for Scully's factory-trained professional service engineers. Our Mountain View headquarters provides a complete back-up service. Call, Telex, Cable, or write to us. After hours (5 p.m. Pacific Time) call area code 415-968-8389 and dictate emergency requirements. We'll provide next day follow up.

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Printed in U.S.A.

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